

23. (New, amend A) An asymmetric analog modem for establishing full duplex data communication with a digital modem over a telephone connection, the analog modem comprising:

a transmitter, the transmitter designed to transmit signals over a telephone connection in accordance with a V.34 communications protocol;

a receiver, the receiver designed to receive signals over the telephone connection and demodulate the received signals into digital data;

wherein the transmitter and receiver are designed to operate concurrently;

wherein the receiver is designed to operate in accordance with a pulse modulation protocol, the receiver designed to decode the received signals into first digital data words and translate the first digital data words into second digital data words,

the first digital data words having corresponding pulse levels with different signal levels on the telephone connection as compared to the pulse levels of the second digital data words;

wherein the receiver is capable of communicating at a higher speed than the V.34 communications protocol.

24. (New, amend A) The system of claim 23, wherein the receiver comprises a map table mechanism, the map table mechanism designed to receive the first digital data words and to identify the second digital data words.

25. (New, amend A) The system of claim 23, wherein said first digital data words are in an expanded format relative to said second digital data words.

26. (New, amend A) The system of claim 23, wherein the receiver implements a fractional bit rate protocol.

27. (New, amend A) The system of claim 23, wherein the receiver comprises a lookup table to identify the second digital data words.

28. (New, amend A) The system of claim 23, wherein the receiver comprises a map table mechanism and a parallel-to-serial converter;
the map table mechanism designed to receive the first digital data words and to identify the second digital data words,
the parallel-to-serial converter designed to convert the second digital data words to a serial format.

29. (New, amend A) An asymmetric analog modem for establishing full duplex data communication with a digital modem over a telephone connection, the analog modem comprising:

a transmitter, the transmitter designed to transmit signals over a telephone connection in accordance with a V.34 communications protocol;

a receiver, the receiver designed to receive signals over the telephone connection and demodulate the received signals into digital data, the receiver including a digital-to-digital translator;

wherein the transmitter and receiver are designed to operate concurrently;

wherein the receiver is designed to operate in accordance with a pulse modulation protocol, the receiver designed to decode the received signals into first digital data words and use the digital-to-digital translator to translate the first digital data words into second digital data words,

the first digital data words having corresponding pulse levels with different signal levels on the telephone connection as compared to the pulse levels of the second digital data words;

· wherein at least one of the second digital data words corresponds to a pulse level that would have been unresolvable if transmitted over the telephone connection by a transmitter and therefore the digital-to-digital translator is configured to reproduce the second digital code words from the first digital code words, the first digital code words resolved from the telephone connection;

wherein the receiver is capable of communicating at a higher speed than the V.34 communications protocol.

30. (New, amend A) The system of claim 29, wherein the receiver comprises a map table mechanism, the map table mechanism designed to receive the first digital data words and to identify the second digital data words.

31. (New, amend A) The system of claim 29, wherein said first digital data words are in an expanded format relative to said second digital data words.

32. (New, amend A) The system of claim 29, wherein the receiver implements a fractional bit rate protocol.

33. (New, amend A) The system of claim 29, wherein the receiver comprises a lookup table to identify the second digital data words.

34. (New, amend A) The system of claim 29, wherein the receiver comprises a map table mechanism and a parallel-to-serial converter;

the map table mechanism designed to receive the first digital data words and to identify the second digital data words,

the parallel-to-serial converter designed to convert the second digital data words to a serial format.